

REMARKS

I. STATUS OF THE APPLICATION

Claims 16-35 are pending in the application.

Claims 2 and 4 were objected to for informalities.

Claim 8 was rejected under 35 U.S.C. §112, second paragraph.

Claims 1-3 and 8 were rejected under 35 U.S.C. §102(e).

Claims 4-7 and 9-15 were rejected under 35 U.S.C. §103(a).

Claim 16 is the only independent claim.

II. AMENDMENTS

The specification has been amended to place the application in correct idiomatic English.

Claims 16-35 have been added.

Attached hereto is a marked-up version of the changes made to the specification by the current Amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

No new matter has been added.

III. CLAIMS 2 AND 4 HAVE BEEN CANCELLED

Claims 2 and 4 were objected to based on informalities, as described in paragraph 2 of the Office Action.

Applicants urge that the objection is moot, as claims 2 and 4 have been cancelled.

Applicants submit that new claims 17 and 22, which generally correspond to claims 2 and 4 respectively, have been written to recite "the projection," in order to more clearly refer back to the projection previously defined in claim 16.

IV. CLAIM 8 HAS BEEN CANCELLED

Claim 8 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, as described in paragraph 4 of the Office Action.

Applicants urge that the rejection of claim 8 is moot, as the claim has been cancelled.

Applicants submit that new claim 27, which generally corresponds to claim 8, has been written to eliminate any antecedent basis problems, which were associated with claim 8.

In view of the above remarks, Applicants respectfully submit that claim 27 is definite within the meaning of 35 U.S.C. §112, second paragraph.

V. CLAIMS 16-18 AND 27 ARE NOT ANTICIPATED BY KUROKAWA UNDER 35 U.S.C. § 102(e) BECAUSE THE APPLIED PRIOR ART FAILS TO TEACH THAT THE OUTER SURFACE OF THE EXTERNAL CASE HAS AN INWARDLY PROTRUDING RECESS

Claims 1-3 and 8 were rejected under 35 U.S.C. § 102(e) as being anticipated by Kurokawa et al. ("Kurokawa"), as described in paragraph 6 of the Office Action.

Applicants submit that the rejection of claims 1-3 and 8 is moot, as the claims have been cancelled.

Applicants respectfully submit that claims 16-18 and 27, which correspond respectively to claims 1-3 and 8, are patentable within the meaning of 35 U.S.C. § 102(e) for the following reasons.

As described in page 3, lines 4-7, of the specification, it is difficult to evaluate the quality of a weld between lead plate and the bottom plate of prior art batteries. In particular, when manufacturing batteries in accordance with the prior art, it is difficult to determine, by inspecting the outside of the battery, whether the lead plate has been properly welded to the bottom plate.

The present invention provides a solution to the problems associated with the prior art. A battery in accordance with the present invention provides an external case having an inwardly protruding projection on its inner surface, to which the lead plate is welded. Furthermore, the present invention provides an inwardly protruding recess on the outer surface of the external case, wherein the inwardly protruding recess is located so as to correspond with inwardly protruding projection on the inner surface of the external case. Consequently, the inwardly protruding recess acts as a "guide" for the beam of energy used to weld the external case to the lead plate.

If the external case did not have a recess, it would be difficult to identify the location of the inwardly protruding projection on the inner surface of the external case. Therefore, if the external case did not have a recess on its outer surface, when welding the external case to the lead plate, the irradiation point of the energy beam may miss the area corresponding to the inwardly protruding

projection on the external case's inner surface. As such, if the irradiation point of energy beam misses the area corresponding to the inwardly protruding projection on external case's inner surface, the external case may be insufficiently welded to the lead plate.

Newly added independent claim 16 recites *inter alia*,

an external case having an inner surface and an outer surface, said external case surrounding the electrode assembly, said inner surface of said external case having an inwardly protruding projection, said outer surface of said external case having an inwardly protruding recess, said recess located so as to correspond with said projection.

Applicants urge that Kurokawa fails to teach at least the above-identified limitations.

In paragraph 6 of the Office Action, the Examiner asserts that "a lead plate (79) is welded to a projection jutting from [sic] the central bottom surface of the case at point 'A'." The Applicants urge that point A of Kurokawa has been incorrectly assessed as a projection. Specifically, for example as described in column 7, lines 52-65, the area A is a welded contact. More specifically, the area A in the Kurokawa reference, contrary to the assertion of the Office Action, is not a projection, but is merely a weld contact area.

In as much, Applicants urge that Kurokawa fails to teach an external case having an inwardly protruding projection. Nevertheless, in order to expedite prosecution, claim 16 further recites that the outer surface of the external case has an inwardly protruding recess, wherein the recess is located so as to correspond with the projection.

Applicants urge that Kurokawa fails to teach that the external case has an inwardly protruding recess. Furthermore, as described above, Kurokawa fails to teach a projection, therefore the reference fails to teach a recess corresponding with a projection.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the foregoing, it is clear that Kurokawa does not anticipate claim 16.

Furthermore, since claims 17, 18 and 27 are dependent upon claim 16, and therefore include all of the limitations thereof, Applicants submit that claims 17, 18 and 27 additionally are not anticipated by Kurokawa.

In view of the above remarks, Applicants respectfully submit that claims 16-18 and 27 are not anticipated by Kurokawa, and are patentable within the meaning of 35 U.S.C. 102(e).

VI. CLAIMS ARE PATENTABLE WITHIN THE MEANING OF 35 U.S.C. § 103(a) OVER KUROKAWA BECAUSE THE APPLIED PRIOR ART FAILS TO TEACH THAT THE OUTER SURFACE OF THE EXTERNAL CASE HAS AN INWARDLY PROTRUDING RECESS

Claims 4 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurokawa as described in paragraph 8 of the Office Action.

Applicants respectfully submit that the rejection of claims 4 and 9 is moot, as the claims have been cancelled.

Applicants respectfully submit that new claims 22 and 28, which respectively correspond to claims 4 and 9, are patentable within the meaning of 35 U.S.C. § 103(a) for the following reasons.

Since claims 22 and 28 are dependent upon claim 16, and therefore include all of the limitations thereof, Applicants submit that claims 22 and 28 additionally are patentable over Kurokawa for the reasons discussed above in Section V.

In view of the above remarks, Applicants respectfully submit that claims 22 and 28 would not have been obvious over Kurokawa, and are patentable within the meaning of 35 U.S.C. § 103(a).

VII. CLAIMS 19, 23 AND 24 ARE PATENTABLE WITHIN THE MEANING OF 35 U.S.C. § 103(a) OVER KUROKAWA IN VIEW OF MACHIDA ET AL. BECAUSE THE APPLIED PRIOR ART FAILS TO TEACH THAT THE OUTER SURFACE OF THE EXTERNAL CASE HAS AN INWARDLY PROTRUDING RECESS

Claims 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurokawa and further in view of Machida et al. ("Machida"), as described in paragraph 9 of the Office Action.

Applicants respectfully submit that the rejection of claims 5-7 is moot, as the claims have been cancelled.

Applicants respectfully submit that claims 23, 19 and 24, which respectively correspond to claims 5-7, are patentable within the meaning of 35 U.S.C. § 103(a) for the following reasons.

Since claims 19, 23 and 24 are dependent upon claim 16, and therefore include all of the limitations thereof, Applicants submit that claims 19, 23 and 24 additionally are patentable over Kurokawa for the reasons described above in Section V.

Furthermore, Machida fails to teach the deficiencies of Kurokawa. Specifically, Machida additionally fails to teach either an inwardly protruding projection on the inner surface of the external case, or an inwardly protruding recess on the outer surface of the external case. As such, even if the teachings of Machida were combined with the teachings of Kurokawa, the resulting battery would not include all the limitations of the claimed invention.

In view of the above remarks, Applicants respectfully submit that claims 19, 23 and 24 are patentable within the meaning of 35 U.S.C. § 103.

VIII. CLAIMS 29-32 ARE PATENTABLE WITHING THE MEANING OF 35 U.S.C. § 103(a) OVER KUROKAWA IN VIEW OF DOROGI ET AL. BECAUSE THE APPLIED PRIOR ART FAILS TO TEACH THAT THE OUTER SURFACE OF THE EXTERNAL CASE HAS AN INWARDLY PROTRUDING RECESS

Claims 10-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurokawa in view of Dorogi et al. ("Dorogi"), as described in paragraph 10 of the Office Action.

Applicants respectfully submit that the rejection of claims 10-13 is moot, as the claims have been cancelled.

Applicants respectfully submit that new claims 29-32 are patentable over Kurokawa within the meaning of 35 U.S.C. § 103(a) for the following reasons.

Since claims 29-32 are dependent upon claim 16, and therefore include all of the limitations thereof, Applicants submit that claims 29-32 additionally are patentable for the reasons described above in Section V.

Furthermore, Dorogi fails to teach the deficiencies of Kurokawa. Specifically, Dorogi fails to teach either an inwardly protruding projection on the inner surface of the external case, or an inwardly protruding recess on the outer surface of the external case. As such, even if the teachings of Dorogi were combined with the teachings of Kurokawa, the resulting battery would not include all the limitations of the claimed invention.

In view of the above remarks, Applicants respectfully submit that claims 29-32 are patentable within the meaning of 35 U.S.C. § 103(a).

IX. CLAIMS 34 AND 35 ARE PATENTABLE WITHIN THE MEANING OF 35 U.S.C. §103(a) OVER KUROKAWA IN VIEW OF HARTMANN ET AL. BECAUSE THE APPLIED PRIOR ART FAILS TO TEACH THAT THE OUTER SURFACE OF THE EXTERNAL CASE HAS AN INWARDLY PROTRUDING RECESS

Claims 14 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurokawa in view of Hartmann et al. ("Hartmann"), as described in paragraph 11 of the Office Action.

Applicants respectfully submit that the rejection of claims 14 and 15 is moot, as the claims have been cancelled.

Applicants respectfully submit that new claims 34 and 35 are patentable withing the meaning of 35 U.S.C. § 103(a). Since claims 34 and 35 are dependent upon claim 16, and therefore include all the limitations thereof, Applicants submit that claims 34 and 35 additionally are patentable over Kurokawa for the reasons as described above in Section V.

Furthermore, Hartmann fails to teach the deficiencies of Kurokawa. Specifically, Hartmann additionally fails to teach either an inwardly protruding projection on the inner surface of the external case, or an inwardly protruding recess on the outer surface of the external case. As such, even if the teachings of Hartmann were combined with the teachings of Kurokawa, the resulting battery would not include all the limitations of the claimed invention.

In view of the above remarks, Applicants respectfully submit that claims 34 and 35 are patentable withing the meaning of 35 U.S.C. § 103(a).

X. CONCLUSION

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

Respectfully submitted,

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